Virginia School for the Deaf and the Blind
Staunton, VA

Technology Plan
2004-2009

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Attachments

Participants

The following individuals assisted in the development of this technology plan. The input they provided has been very valuable in helping to set a direction for the incorporation of technology in instructional programs, support service delivery, and administrative functions at VSDB-S. Without the ideas, comments, suggestions, and input from staff, this plan could not have been completed. This plan will be made publicly available on the VSDB-S website (http://www.vsdbs.virginia.gov) for anyone who wishes to review it.

Participant	**Position**
Art Lewis	Food Service Director
Chris Colbert	IEP Coordinator
Diana Nuckoles	Principal
Elaine Goss	Teacher, Blind Department
Janice Rankin	Business Office Manager
Jason Benson	On-site VITA Staff
Karen Stinson	Teacher, Deaf Department
Marian Hackney	Teacher, Blind Department
Marvin Mahler	Director of Operations
Mary Murray	Director of Student Life
Nancy Armstrong	Superintendent
Nathan McLamb	Director of Human Resources
Pattye Leslie	Assistant Principal
Sherri Helsel	Parent
Sue Fultz	Infirmary Director
Tanya Faidley	Curriculum Coordinator
Thresa Lindsay	Administrative Staff Assistant

Executive Summary

The Virginia School for the Deaf and the Blind-Staunton is dedicated to providing our students with the skills necessary to enhance their contributions to an increasingly technologically advanced society. The VSDB-S staff will use technology as a tool to ensure the best possible growth and development of our students.

The technology goals set forth in this plan are:

- Develop in VSDB-Students the technology skills and competencies that will enhance their learning at VSDB-S and will support them when they become productive citizens in a technological environment.
- Develop within the VSDB-S staff the competencies needed to facilitate student instruction, and provide ongoing professional development by utilizing mentors, peer coaches, online courses, and certification programs through colleges and university teacher education programs.
- Expand student and staff access to information through technology, leading to enhanced opportunities for learning and communicating.
- Maintain updated workstations to promote learning and exchange of information for students and staff.
- Use technology to universally enhance communication and the flow of information throughout the agency.
- Expand the use of technology to store, retrieve, manage, and analyze materials and information as a management tool for VSDB-S programs and activities.
- Establish VSDB-S as a training site for other professionals in the Commonwealth of Virginia serving the deaf and blind populations.

This plan was developed through a collaborative effort by a variety of stakeholders, including the technology staff, administrative staff, teachers, and parents. This committee will meet annually to assess the status of VSDB-S's technology efforts and to update and revise the technology plan. The plan will be made publicly available on the VSDB-S website (http://www.vsdbs.virginia.gov) for anyone who wishes to review it.

Mission Statement

The Virginia School for the Deaf and the Blind at Staunton assists in ensuring that today's students will be tomorrow's citizens with the skills necessary to function in and contribute to a society that uses technology to process and manage information, communicate, make decisions, solve problems, and to enhance productivity. The VSDB-S staff participates by developing technology-based skills that contribute to student growth and development. The staff shares expertise concerning technology with others as part of the school's outreach effort.

Vision for the Future

VSDB-S is an educational environment comprised of the latest and best in both information technology and practices, things that are essential to allow for adequate educational opportunities for our students considering their specialized needs in an increasingly techno-centric culture. VSDB-S is comprised of technically knowledgeable staff that can work with the latest technology and derive and shape their courses to take full advantage of these technologies in order to provide the best possible education for our students. VSDB-S is the center for Best Practices regarding Hearing Impaired/Deaf and Visually Impaired/Blind educational services.

VSDB-S has a Shared Reading Program where trained staff members fluent in ASL go into the dormitories to enhance children's reading skills. Technologies such as Smartboards and GTCO devices are used as instructional aides in each classroom. Video streaming, Internet resources, and distance-learning applications are widely used to enhance teaching and learning.

Staff and student communication is enhanced through technology. The use of text-messaging devices allows for instant communication among staff members. Residential students are able to independently communicate with family and friends who live far away via text pagers. VRS systems allow students and staff to communicate with the outside community through face-to-face ASL communication.

Distance-learning capabilities allow classroom exchange for all grade levels. ASL classes are taught at VSDB-S and accessed from any area with distance-learning capabilities. Video conferencing facilitates counseling sessions, interchange of information with other agencies as we seek treatment for students, and the exchange of professional expertise through dedicated training sessions.

Current Status

The current technology architecture in place is Dell workstations and servers communicating over a 100Mbps Cisco network framework. Internet connectivity is supplied through MCI via COVANET and is a T-1 line rated at 1.544 Mbps. Changes from within the organization are being driven by improved teaching techniques, requirements set forth within the Virginia Standards of Learning (SOL), increased workload in comparison to fewer staff personnel, and goals to increase the scope of services offered by the agency.

Current IT successes include:

- Microsoft Windows migration – The VSDB-S network is comprised entirely of Windows 2000 and 2003 Servers serving Windows XP Professional clients. This provides a stable and secure network, as well as providing the opportunity for independent Internet hosting, intranet capabilities, and improved compatibility and upgradeability of the network.
- Microsoft Office migration – Currently the VSDB-S standard is Microsoft Office XP Professional, with plans underway to upgrade to Microsoft Office 2003 Professional. Keeping our Office software up-to-date allows for increased productivity due to the continually expanding feature set of this application.
- Public Website – This site was completed in 2001 and has enabled VSDB-S to establish its presence on the Internet for all potential students and parents to explore the offerings of the organization. Efforts to redesign the website and bring it up-to-date are currently underway.
- Network Connectivity – When the VSDB-S network was initially established, workgroup hubs were installed for each building. For performance reasons these hubs have been replaced with Cisco 10/100 switches, providing increased bandwidth and reliability for the network.
- Student information systems – The SASI and Tranquility applications are currently in place at VSDB-S to manage student data and IEP information. Our hope for the future is to expand the use of SASI to take full advantage of this powerful application.
- Student network – A section of the VSDB-S network is reserved for student computers, which are readily accessible in computer labs and in dormitories. The student network provides centralized storage space on a highly fault-tolerant Dell server, as well as full Internet capabilities.
- Web filtering software – The N2H2 Bess filtering software is currently employed at VSDB-S to protect students from inappropriate web content. This software is constantly updated to provide the best possible protection for our students.
- Centralized Storage – Each staff member has centralized storage available on the network, allowing them to log on at any computer on the network and still have access to their files and email.
- Staff Intranet – Microsoft SharePoint is used to share files between staff members and to promote a “paperless” office. Organizational forms are accessible through

this intranet to allow more effective routing and quicker response time by supervisors.

- Technology-related instructional tools – Smartboards are located in many classrooms to provide computer-aided instruction. New wireless GTCO devices are currently being installed in many classrooms to further expand this capability.
- Online SOL testing – SOL testing is conducted online, allowing for an efficient testing process and timely testing results.
- Online review systems – Systems available from the DOE such as ePAT (reading, writing, math, and grade 8), Princeton Review for Seniors (reading and writing), and the Algebra Readiness Diagnostic Test are used to promote testing preparedness.
- Sorenson VRS system – Plans are in place to install a Sorenson VRS system in a central location, which will enhance communication opportunities for deaf staff and students.
- Computer-based assessment – Systems such as STAR Reading and Math, Accelerated Reader and Math, and the Algebra Readiness Diagnostic Test are used to enable timely and accurate assessment of students.

Needs Assessment

Internet Bandwidth

As video streaming, distance learning applications, and Internet resources become more prevalent as teaching tools in each classroom, increased Internet bandwidth is becoming necessary. Upgrading the current T-1 line to a DS-3 will provide the necessary bandwidth to expand our distance learning objectives and ensure that the educational process is not disrupted due to slow access times.

Fiscal Analysis: Total annual cost for this service will be $84,960. E-Rate funding will be sought to cover 90% of this cost, leaving $8,496 as the annual cost for VSDB-S.

Staff Training

Training is becoming an increasingly valid concern, and will be necessary to ensure that instructional staff is able to meet the required standards for recertification. In order to take full advantage of SASI, SharePoint, Sorenson VRS, and other technologies available at VSDB-S, additional training is necessary. Also, as the requirements for technology knowledge increase, so must the salaries of the staff to which these requirements apply.

Fiscal Analysis: $5,000 has been budgeted toward a technology training workshop during the 2004-2005 school year.

Additional Technology Staff

Two additional technology-related positions, one for each the Deaf and the Blind department, are required to assist staff with technology training and to assist students with after-hours technology needs. Additional technology classes for students are also needed.

Fiscal Analysis: Total annual cost to the agency to add two technology-related positions will be $78,310.

Text-messaging System

Currently, Nextel phones are used to aid in staff communication. This solution is not adequate for our deaf staff members, as typing out text messages on the phone is very inconvenient and not all phones have text-messaging capability. A text-messaging system better suited to our unique environment is needed.

Fiscal Analysis: Devices are estimated at $300/ea and monthly service cost per device is estimated at $30. For 20 such devices, the total initial cost will be $6,000 and the monthly cost will be $600.

Security System

To enhance the safety of our campus, a new security system is needed. This would be comprised of security cameras and monitors located at strategic locations to facilitate constant monitoring of the campus.

Fiscal Analysis: The cost of the system will vary widely depending on the type of service and extent of the system. A cost estimate is not possible until the design of the system has been established.

Computer-based Assessment in Blind Department

Computer-based assessment is currently only available in the deaf department. A system that is compatible with the blind via screen-readers or Braille printer compatibility is needed.

Fiscal Analysis: Approximate cost for obtaining and implementing the necessary technologies to enable computer-based assessment in the blind department is $10,000. Flow Through money and No Child Left Behind funds will be used as resources to accomplish this.

Technology to Transpose Instructional Materials in Blind Department

Currently the teachers in the Blind department spend large amounts of time transposing materials into the proper format. New technology to assist in this process would enable a much more efficient means of providing students with the necessary learning materials.

Fiscal Analysis: The total cost for the technology related to transposing print materials into Braille and large-print formats is estimated at $7,000.

Additional Instructional Aides in the Blind Department

Braille displays are needed to facilitate the development of students' literacy skills in the blind department.

Fiscal Analysis: Ten Braille displays are needed at a cost of $5,895/ea, totaling $58,950.

Collaboration and Partners

Virginia Information Technologies Agency (VITA)
Operation of VSDB-S's IT infrastructure and procurement of technology will be provided through cooperation with VITA.

Local School Divisions

Local Special Education Directors

Virginia Department for the Deaf and Hard of Hearing (VDDHH)

Virginia Department for the Blind and Vision Impaired (VDBVI)

Area Universities

Community Colleges

Hartcourt Brace Publishing Company

Federal and State Agencies

Project HEAR
Community College based grant

Gallaudet University

Rochester Institute for Technology

T/TAC Centers at James Madison University

Associations:

- **American Association of School Administrators**
- **Virginia Association for the Deaf**
- **American Printing House for the Blind**
- **CORE – Coalition of Residential Education**

Goals, Objectives, Strategies

GOAL #1		
Develop in VSDB-Students the technology skills and competencies that will enhance their learning at VSDB-S and will support them when they become productive citizens in a technological environment.		
OBJECTIVE A		
Develop and or revise all curriculums to reflect technology integration throughout the Standards of Learning Content areas as well as vocational content classes. Ensure VSDB-S's Technology Competencies and computer/technology SOLs are fully integrated/embedded into all curriculum areas.		
STRATEGIES	TIMELINE	RESOURCES
1. Develop technology related goals through curriculum committees in grades K-12	2006	Curriculum guides
2. Integrate technology resources into pacing guides & lesson plans	2004-2005	Pacing guides and plan books
3. Evaluate technology integration by staff through the performance evaluation system	2004-2006	Administration
OBJECTIVE B		
Integrate into the students' instructional program the use of technology as a tool for learning in all subjects.		
STRATEGIES	TIMELINE	RESOURCES
1. Regularly use tools such as GTCO devices, Smartboards, and electronic note-takers in classroom instruction.	2004-2005	Staff training
2. Involve students in projects focusing on technology such as digital photography.	2006	Staff training
3. Model use of graphic organizers in the classroom.	2004-2006	Staff training
Goal Assessment: Completed curriculums		

GOAL #2
Develop within the VSDB-S staff the competencies needed to facilitate student instruction, and provide ongoing professional development by utilizing mentors, peer coaches, online courses, and certification programs through colleges and university

teacher education programs.		
OBJECTIVE A		
Provide the VSDB-S staff with the necessary training and support to incorporate technology throughout the school and ensure that all instructional staff meets the VSDB-S Technology Standards for Instructional Personnel as well as the technology standard recertification requirements.		
STRATEGIES	TIMELINE	RESOURCES
1. Schedule training as part of the annual calendar.	Ongoing	Staff, Blue Ridge Community College technology experts
2. Budget for training and professional development annually.	Ongoing	Flow Through Money, No Child Left Behind, Special Grants
3. With staff participation, prepare professional development plans that will be part of staff annual performance reviews.	2005	Administration
4. Participation by staff in technology training sessions that are geared to skill levels, curriculum needs, and interests.	2004-2009	Computer labs, presentation personnel, fees for presenters
5. Establish a technology planning committee for each the Deaf and the Blind department.	2004-2005	Staff
6. Identify staff development needs through a survey.	2004-2005	Administration
7. Provide small, group or one-on-one follow-up sessions to staff.	Ongoing	Staff
OBJECTIVE B		
Provide the support staff needed to implement the school's technology plan.		
STRATEGIES	TIMELINE	RESOURCES
1. Propose the establishment of two new media/technology positions in the next biennial budget.	2004-2005	Additional MEL, salary
2. Budget for appropriate consultative services to support technology initiatives.	Ongoing	Grants
3. Establish a mentor program to assist new staff	2005-2006	Administration

in learning how to use technology as a part of their respective jobs.		
Goal Assessment: Number of training sessions offered, successful completion of and acceptable scores on the VSDB-S Technology Skills Checklist		

GOAL #3		
Expand student and staff access to information through technology, leading to enhanced opportunities for learning and communicating.		
OBJECTIVE A		
Increase Internet bandwidth to enable the wider use of video streaming and distance-learning opportunities.		
STRATEGIES	TIMELINE	RESOURCES
1. Seek funding for and install a DS-3 connection	2005-2006	E-Rate funding
OBJECTIVE B		
Expand the use of videoconferencing, video streaming, and distance learning opportunities for students.		
STRATEGIES	TIMELINE	RESOURCES
1. Provide training for instructional staff on the necessary technologies.	2006	Staff, technology specialist
2. Provide training for counseling staff and others involved with consultation and meetings that can be held via videoconferencing	2006	Staff
OBJECTIVE C		
Improve communication systems for VSDB-S staff and students with the outside community.		
STRATEGIES	TIMELINE	RESOURCES
1. Install a Sorenson VRS system in the Student Life Office, a central location easily accessible by students and staff.	2004-2005	Department of Rehabilitative Services
OBJECTIVE D		
Improve access to instructional materials for visually impaired/blind students.		
STRATEGIES	TIMELINE	RESOURCES
1. Establish access to ebooks, web Braille, and digital textbooks for students	2004-2005	Web subscriptions
2. Seek funding for and	2007	Grants

install new technology to enable the transposition of print materials into Braille and large print.		
3. Seek funding for and purchase instructional aides such as textbooks on CD-ROM and Braille displays.	2006	Grants, Foundation money, No Child Left Behind
Goal Assessment: Use of video conferencing and video streaming, use of web applications for visually impaired/blind students, staff survey		

GOAL #4		
Maintain updated workstations to promote learning and exchange of information for students and staff.		
OBJECTIVE A		
Develop a three-year replacement cycle and a schedule of new equipment purchases.		
STRATEGIES	TIMELINE	RESOURCES
1. Seek funding to support the necessary replacement cycle.	2005-2006	Grants, Flow Through Money
2. Work with the Virginia Information Technologies Agency (VITA) to implement the replacement cycle.	Ongoing	VITA staff
OBJECTIVE B		
Ensure security and protection of equipment and software.		
STRATEGIES	TIMELINE	RESOURCES
1. Conduct periodic equipment inventory and inspections.	Ongoing	Staff
2. Work with VITA to ensure that systems and database security are provided.	Ongoing	VITA staff
OBJECTIVE C		
Establish an agency recurring budget for software updates.		
STRATEGIES	TIMELINE	RESOURCES
1. Seek out grants and identify available federal monies for these purchases.	2004-2009	Administration
Goal Assessment: Inventory		

GOAL #5		
Use technology to universally enhance communication and the flow of information throughout the agency.		
OBJECTIVE A		
Increase the availability of TDDs and other telephone equipment.		
STRATEGIES	TIMELINE	RESOURCES
1. Budget annually for the necessary repairs and replacement of this equipment.	2004-2009	Foundation money, American Printing House for the Blind money
OBJECTIVE B		
Use television, message boards, and other media to enhance communication throughout the school		
STRATEGIES	TIMELINE	RESOURCES
1. Seek funding for and acquire a text-messaging system to replace the Nextel system currently in use.	2007	Administration
2. Seek funding for and acquire digital amplification devices for use in our classrooms.	2007	Administration
3. Install and upgrade visual and auditory-alerting systems throughout the school.	2009	Administration
Goal Assessment: Inventories, parent, student & staff surveys		

GOAL #6		
Expand the use of technology to store, retrieve, manage, and analyze materials and information as a management tool for VSDB-S programs and activities.		
OBJECTIVE A		
Use established databases to assist in the management of student, staff, and other records.		
STRATEGIES	TIMELINE	RESOURCES
1. Provide training for staff in the use of these databases.	2007	Staff
OBJECTIVE B		
Install and maintain information technology systems in VSDB-S's libraries.		
STRATEGIES	TIMELINE	RESOURCES
1. Seek funding for and install a bar code system for the libraries.	2009	Staff
OBJECTIVE C		

Assure the safety of VSDB-S's students and staff by ensuring timely background checks are done for all new employees.		
STRATEGIES	TIMELINE	RESOURCES
1. Seek funding for and install an automated fingerprinting device.	2009	Administration
OBJECTIVE D		
Facilitate student access to the campus, as well as student identification and tracking capability of staff.		
STRATEGIES	TIMELINE	RESOURCES
1. Seek the design of and funding for a campus-wide keycard system.	2009	Grants
Goal Assessment: Inventories, staff survey		

GOAL #7		
Establish VSDB-S as a training site for other professionals in the Commonwealth of Virginia serving the deaf and blind populations.		
OBJECTIVE A		
Use the technologies and expertise accomplished through the previous goals to establish VSDB-S as a training site for professionals who serve the blind and deaf populations of Virginia.		
STRATEGIES	TIMELINE	RESOURCES
1. Offer the VSDB-S facilities as a site for training professionals across the Commonwealth.	2009	Computer labs, Distance-learning technologies, collaboration with other agencies
Goal Assessment: Use of VSDB-S facilities for training		

Connectivity

Connectivity for VSDB-S is currently provided by a highly reliable Cisco 10/100 network framework and a T-1 Internet connection. Fault-tolerant Dell servers running the Windows 2000 or 2003 Server operating systems provide all network services. All clients use the Windows XP Professional operating system. Microsoft Software Update Services (SUS) is used to ensure that all servers and client PCs have the very latest security patches installed.

Security for the network is provided by a Dell server running the Microsoft ISA Server firewall and web-caching solution. This firewall permits only authorized access to the VSDB-S network. Internet filtering software is also in place on this server to ensure that inappropriate web content is not accessible by students or staff.

Antivirus software is installed on the Exchange email server, and all incoming and outgoing email is scanned for viruses and inappropriate content. Antivirus software is also installed on each server and client PC. This software is updated daily in order to provide protection from the latest viruses.

Computers are readily accessible in each classroom, in computer labs located in the school buildings, and in the dormitories. Each computer on the VSDB-S network has full Internet capabilities.

VSDB-S will work with the Virginia Information Technologies Agency (VITA) in the procurement and implementation of new technologies to ensure that our infrastructure remains as efficient and as secure as possible.

Educational Applications / Integration

GOAL		
Integrate technology into the curriculum and support student-centered learning environments.		
STRATEGIES	TIMELINE	RESOURCES
1. Identify appropriate software and web subscriptions to assist teacher and student content learning of SOLs.	2005	Committee to review, recommend and purchase new software and web sites.
2. Integrate technology practices into instructional lesson plans and curriculum pacing guides that assist students in passing the SOL technology standards.	2005	Ongoing training, observations, completed pacing guides and lesson plans
3. Integrate use of webquests, web site development to enhance student learning	Ongoing	Training sessions
4. Use of digital cameras, CD-ROMs, multimedia, software applications, scanners, printers, ELMOs, probes, into learning opportunities for VSDB students.	2006	Peripherals purchased and accessible
5. Use of web portals to assist instructional staff in managing and organizing lessons.	2005	Web portal design
6. Use of electronic field trips, captioned and audio video streaming, to enhance student learning.	2006	NTTI and museum websites
Goal Assessment: Observations of technology lessons and student projects, software recommended list, staff performance review		

Accountability

- Accountability will be included in the performance evaluations for instructional staff, who will need to demonstrate their knowledge of technology strategies used in the classroom.
- Students will utilize technology as they complete homework assignments.
- The use of SASI will be expanded and this solution will be used as an efficient means of managing student data.
- A committee will meet annually to assess, update and revise the VSDB-S Technology Plan.
- Staff will use text-messaging devices to communicate on campus, which will facilitate student safety.
- On-campus security system will alert staff of intruders to ensure student safety.
- Electronic barcode library system will track library books and reduce the occurrence of lost books.
- Secure Internet service will protect students from exposure to inappropriate materials.